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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,384	01/02/2001	Masahichi Kishi	566.39297X00	3620
7590 01/13/2005			EXAMINER	
Antonelli Terry Stout & Kraus 1300 North Seventeenth Street Suite 1800 Arlington, VA 22209			PEZZLO, JOHN	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**SUPPLEMENTAL**  
**Notice of Allowability**

Application No.

09/700,384

Examiner

John Pezzlo

Applicant(s)

KISHI, MASAHIKI

Art Unit

2662

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 7/15/2004.
2. ☒ The allowed claim(s) is/are 1-17.
3. ☒ The drawings filed on 15 July 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>071504</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                             | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### ***EXAMINER'S AMENDMENT***

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Hung H. Bui on 20 October 2004.

The claims have been amended as follows:

1. Claim 1 – Line 6, after "including a plurality of" deleted "transmission" and inserted -- basic and virtual -- .
2. Claim 1 – Line 8, after "changing a time region" inserted -- , via said basic and virtual segments, --.
3. Claim 4 – Line 6, after "including a plurality of" deleted "transmission" and inserted -- basic and virtual -- .
4. Claim 4 – Line 8, after "a plurality of times" inserted -- , via said basic and virtual segments, --.
5. Claim 4 – Line 13, after "multiplying" deleted " transmission" and inserted -- said basic and virtual -- .

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6. Claim 4 – Line 16 and 17, after "superposing" deleted "the transmission" and inserted -- said basic and virtual -- .

7. Claim 7 – Line 5, after "multiplying" deleted " transmission" and inserted -- said basic and virtual -- .

8. Claim 7 – Line 8 and 9, after "superposing" deleted "the transmission" and inserted -- said basic and virtual -- .

***Allowable Subject Matter***

Claims 1-17 are allowable over the prior art of record.

***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance: Applicants have claimed uniquely distinct features in the instant invention, which are not found in the prior art, either singularly or in combination. Each independent claim identifies the following uniquely distinct features:

1. Regarding claim 1 – A code division multiple access transmission system, comprising: on a transmitting side, a means for obtaining a primary modulated wave by performing differential coding phase modulation on a carrier signal in accordance with information, and a means for generating a spread signal including a plurality of basic and virtual segments, by multiplying said primary modulated wave by a spread code repeatedly a plurality of times. changing a time region, via said basic and virtual segments, within a symbol period, and for transmitting said generated spread signal, and on a receiving side, a means for detecting a phase difference between a past symbol and a present symbol, by performing quasi-synchronous detection and despreading, and difference operation, and a means for outputting the detected phase difference as information of said symbol.

2. Regarding claim 2 - A code division multiple access transmission system, comprising: on a transmission side, a means for obtaining a primary modulated wave by performing phase modulation on a carrier signal in accordance with information; a means for excluding rapid fluctuation of a phase value in a symbol end area of said primary modulated wave, and a means for generating a spread signal by multiplying said primary modulated wave, from which the rapid fluctuation of the phase value is excluded, by a spread code, and for transmitting said generated spread signal, and on a receiving side, a means for regenerating the information by despreading, said despreading being performed by obtaining a sum of values that, in turn, are obtained by multiplying the received spread signal by a corresponding despread code.
3. Regarding claim 3 - A code division multiple access transmission system, comprising: on a transmitting side, a means for obtaining a primary modulated wave by performing phase modulation on a carrier signal in accordance with information, a means for excluding rapid fluctuation of a value of a spread code in an end area of a spread code period, and a means for generating a spread signal by multiplying said primary modulated wave by a spread code, from which the rapid fluctuation of the value of the spread code is excluded, and for transmitting said generated spread signal, and on a receiving side, a means for regenerating the information by despreading, said despreading being performed by obtaining a sum of values that, in turn, are obtained by multiplying the received spread signal by a corresponding despread code.
4. Regarding claim 4 - A code division multiple access transmission system, comprising: on a transmitting side, a means for obtaining a primary modulated wave by performing phase modulation on a carrier signal in accordance with information, and a means for generating a spread signal including a plurality of basic and virtual segments, by multiplying said primary modulated wave by a spread code sequence repeatedly a plurality of times within a symbol period, and for transmitting said spread signal, and on a receiving side, a means for regenerating the information by despreading, said despreading being performed by obtaining a sum of values that, in turn, are obtained by multiplying said basic and virtual segments of a received spread signal by a corresponding despread code sequence, wherein said means for regenerating, on the receiving side, performs said despreading in virtual segments defined by superposing said basic and virtual segments, changing a time region.
5. Regarding claim 5 - A code division multiple access transmission system comprising: on a transmitting side, a means for obtaining a primary modulated wave by performing differential coding phase modulation on a carrier signal in accordance with information, a means for excluding rapid fluctuation of a phase value in a symbol end area of said primary modulated wave, and a means for generating a spread signal including a plurality of transmission segments, by multiplying said primary modulated wave by a spread code repeatedly a plurality of times, changing a time region within a symbol period, and for transmitting said spread signal, and on a receiving side, a means for detecting a phase difference between a past symbol and a present symbol, by performing quasi-synchronous detection and despreading, and difference operation of a received spread signal, and a means for outputting the detected phase difference as information of said symbol.

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6. Regarding claim 6 - A code division multiple access transmission system comprising: on a transmitting side, a means for obtaining a primary modulated wave by performing differential coding phase modulation on a carrier signal in accordance with information, a means for excluding rapid fluctuation of a spread code in an end area of a spread code period of said spread code, and a means for regenerating a spread signal including a plurality of transmission segments, by multiplying said primary modulated wave by a spread code repeatedly a plurality of times, changing a time region within a symbol period, and for transmitting said spread signal, and on a receiving side, a means for detecting a phase difference between a past symbol and a present symbol, by performing quasi-synchronous detection and despreading, and difference operation of a received spread signal, and a means for outputting the detected phase difference as information of said symbol.

The closest prior art, either singularly or in combination, fail to anticipate or render the above limitations obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

**Claims 1-17 being allowable, Prosecution On The Merits Is Closed** in this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Pezzlo whose telephone number is (571) 272-3090. The examiner can normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C.

or faxed to:

(703) 872-9306

For informal or draft communications, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:


500 Dulany Street

Room 2A15

Alexandria, VA.

John Pezzlo

21 October 2004



**JOHN PEZZLO**  
**PRIMARY EXAMINER**